FIRST
ANNUAL REPORT
On the Health
OF THE
RURAL SANITARY DISTRICT
OF THE
ISLE OF WIGHT.

BY

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FIRST ANNUAL REPORT

ON THE

HEALTH OF THE RURAL SANITARY DISTRICT OF THE ISLE OF WIGHT.

I.

To the Members of the Isle of Wight Rural Sanitary Authority,

GENTLEMEN,

As this will be the First Annual Report submitted to you since the appointment of one Medical Officer of Health, it may be convenient to give a brief description of the District under your jurisdiction.

The Isle of Wight Rural Sanitary District.

The Isle of Wight Rural Sanitary District embraces the whole of the Isle of Wight beyond the borough and local board areas, that is to say outside the boundaries of the boroughs of Newport in the centre of the Island, and of Ryde on the N.E. coast, and of the local board districts of East and West Cowes on the N. coast, of St. Helens on the N.E. and of Sandown, Shanklin, and Ventnor on the S.E. coasts.

Acreage.

Extent.

The Isle of Wight, it is estimated, contains 93,341 acres, and of these 87,599 acres are within the Rural Sanitary District. The greatest extent of the District from east to west is about 23 miles, and from north to south about 13 miles.

Geological Features.

Upper Secondary Cretaceous Formations.

Its geological features are of special sanitary importance as regards drainage, water supply, and climate. It is crossed from east to west by a range of chalk downs, the highest of which has an altitude of nearly 700 feet. These downs and the strata to the south of them—namely the Upper Greensand, the Gault, the Lower Greensand, and the Wealden—are of Upper Secondary, those to the north of them are of Lower Tertiary formation. South of the chalk downs and separated from them by a broad open valley, known as the Arreton and Whitwell valley, is another range of hills bordering on and following the line of the south-east coast from Shanklin to Chale. These more southerly downs, which attain a height of 800 feet, are of Upper Greensand capped by outliers of the Chalk, and having the Gault underlying it.

The water which collects in these hills not being able to permeate the Gault finds a vent at the foot of the downs and gives origin to the principal rivers of the Island. Between these two ranges of hills and continuing to the west of the southerly range, the Lower Greensand is at the surface from Sandown Bay on the east to Compton Bay on the west. It rises continually into ridges and isolated hills at Newchurch Redway, Godshill, St. George's Down, Marvel, Bleak Down, and Sou' Down near Chale. Immediately south of the Chalk from Bembridge Down on the east to Afton Down on the west is a ridge, above the Lower Greensand, of Gault with a narrow belt of Upper Greensand above it, which widens out, however, about Whitcombe, and forms the hill between it and Bowcombe. Gatcombe stands on the Upper Greensand as do Chillerton and Shorwell, places in which water is particularly abundant, held up as it is by the underlying Gault; and the hill, known as Gossard's hill, to the south-west of Rookley is of the same formation. From Cowlease Chine to beyond Compton Grange on the coast and south of the highway from Brighstone to Brooke House the Wealden is at the surface, as it is to the east of Sandown and from Sandown to the Red Cliff on the east of Sandown Bay. There are considerable superficial deposits of Post Tertiary gravels, as on the summit of St. George's Down, near Horringford and in other places, but these superficial deposits are much less general to the south than to the north of the central chalk range.

Dip of Strata.

The dip or inclination of the strata is a matter of considerable sanitary importance, and serious mistakes are often made in the Isle of Wight by assuming it corresponds to the surface configuration, whereas it is often in exactly the opposite direction. The strata of the central chalk range are not horizontal but more or less perpendicular, in obedience to the lines of an anticlinal curve, and the strata of other formations on each side of it are more or less set up on end. South of the central range the Chalk has been removed, but portions of it remain capping the more southerly chain of hills. Here the strata and those of the Upper Greensand and Gault beneath it, corresponding to the ascending arch of the curve are more horizontal but dipping to the north.

Fissures.

Even of greater importance than the inclination of the strata is the fact that the Chalk and Upper Greensand are extensively fissured, the fissures being usually, but not always, minute in the former formation. These fissures do not necessarily follow the lines of strata, but may be perpendicular to them, or may cross them in any direction. Sewage discharged into these fissures, especially into those of the Upper Greensand, may pass through them unchanged into water wells.

Structure of the Undercliff.

The structure of the Undercliff, nearly the whole of which is under your jurisdiction, being of considerable sanitary importance, I will briefly describe its formation. The weathered cliff to which much of the picturesqueness of the Undercliff is due is of Upper Greensand, and beneath it, as we have seen, is the Gault. The Gault is a sandy clay which becomes soft when water lies upon it for some time. The water which percolates the Greensand at length reaches the Gault and bursts forth in springs at its junction with the Greensand. Should it collect on its surface the Gault softens and masses of the superimposed strata, losing their natural support, fall. Portions of the surface of the cliff, too, are detached by water freezing in the fissures, or by chemical disintegration. Thus in the course of ages a natural terrace has been formed. This terrace, then, is "made ground," and in it are extensive cavities and spaces which run no one knows whither. In process of time the whole of the Undercliff will probably be built over, and I cannot too strongly impress upon you the importance of controlling the methods of drainage which are being and may be adopted there. The sewage is now being discharged into these fissures and cavities, and cess-pits are being formed which can never be emptied or filled up, and over which houses will be built. In my opinion the evil already done is incalculable, and I cannot find language to express adequately my sense of the responsibility incurred by permitting it to continue.

Sewage disposal in the Undercliff.

Lower Tertiary Eocene Formations.

The Chalk forming what is called a synclinal curve, passes beneath the Solent and appears again as the South Downs. In the basin thus formed the tertiary strata lie like successive layers of paste lining a pie dish, the portions of each layer continued up the side of the dish being on end so to speak. Lying against the northern face of the Chalk the edges of the strata are at the surface. You see them thus perpendicular in Alum Bay from the Chalk to Headon Hill. They run through the Island at the foot of the Chalk to Whitecliff Bay, where they may be seen again exposed. Next to the Chalk are what are known as the Woolwich and Reading beds, and next them are the London Clay or Bognor beds. These beds are of clay alternating with sand. Then come the Lower Bagshot sands and clays known locally as the Alum Bay sands. Then the Bracklesham beds, the Barton clay and Upper Bagshot sands, the Glass-house sands among them. Then follow the Headon sands and marls and the Osborne or St. Helens clays. The whole of the north side of the Island is much covered with drift, the beds of gravel being often of considerable thickness; so that the Eocene strata although described as at the surface are not necessarily immediately beneath the surface soil and may be at varying depths below it. The edges of the strata above enumerated, which are known as the Lower and Middle Eocene, account for a strip of surface of from a quarter to half a mile wide from the base of the downs north, and in length stretching right through the Island from east to west, the Bagshot series, that is to say the Lower Bagshot and the Barton and Bracklesham beds, occupying much of the space. In some places the strip is narrower, and in others, as between Calbourne and Shalcombe, and at Freshwater, it widens out. Brading stands upon it, the northern portions of the village of Carisbrooke, and Calbourne, and the whole of Freshwater. At Freshwater the Bagshot beds extend on each side the Yar as far north as the bridge across it near the Church, so that Pound Green, School Green, and nearly the whole of Freshwater proper stand upon them. Beyond the north line of this strip the strata are more or less horizontal and dip to the north. From the Medina river, and bounded by it on the west, to Downend above Arreton, and bounded on the east by a line from Downend to Palmer's Brook, and from Palmer's Brook by a line a little to the west of the high road to East Cowes, the Headon and Osborne beds, now horizontal, are exposed. Over the whole of the remainder of the north side of the Island, from Yarmouth to Bembridge, the Upper Eocene which are known as the Bembridge and Hempstead beds, are at the surface. The higher of these, the Hempstead marls and clays, are present only at Hampstead and from Hampstead to Bouldnor, and at Parkhurst Forest. The lowest or more southerly, of the Bembridge beds, which are the surface beds of the greater portion of the north of the Island, is the Bembridge Limestone. Almost uncovered by drift it lies on the surface in the west of the Island from the northern edge of the strip of Lower and Middle Eocene beds, of which we have been speaking as running through the Island at the base of the downs, to the road from Thorley to Dodpits—a line drawn from the south of Yarmouth to Street Place would about indicate its northern boundary. Continuing the line from Dodpits it passes through the wood north of Swainston near Great Watchingwell, and thence under the farm buildings at Great Park to Gunville, on the east side of which it is lost, It does not appear again on the other side of the Medina until near Little Duxmore and between it and Great Duxmore, and then on between the down and Ashey Farm, south of Little Nunwell and a little to the west of Brading Church, then south of the wood near Woolverton and running from there to the east of Bembridge Farm to Whitecliff Bay. From this roughly defined line it dips beneath the Lower and Upper Bembridge marls and clays, which are the uppermost strata over the remaining portion of the north of the Island, and

The Bembridge Limestone.

appears on the shore at West Cowes and off the coast at Hampstead.

Water beneath Bembridge Limestone.

I have been thus particular in describing the position of this formation because to the west of the Medina, at least, beneath the Bembridge Limestone, known locally as "quarry," abundant water, held up by the underlying Osborne clays, seems always to be found, a most important fact when we consider the dearth of water especially in particular districts north of the Chalk. The deep wells at Ningwood and Porchfield probably obtain their supply from this source.

The Geological Formations of the Isle of Wight.

LATER TERTIARY.

Beds now forming, or of recent date.
Newer and lower gravel, clays, sand, etc.
Older and higher gravel of the downs.

TERTIARY.

FLUVIO MARINE.

Upper Eocene.
- Hempstead Beds.
- Bembridge Beds.

MIDDLE EOCENE.
- Osborne or St. Helens Beds.
- Headon Beds.
- *BAGSHOT BEDS.*
- Upper Bagshot Sands.
- **Middle Bagshot**
  - Barton Clay.
  - Bracklesham Beds.
- Lower Bagshot Beds,

LOWER EOCENE.

Lower Eocene.
- London Clay.
- Plastic Clay, or Woolwich and Reading series

UPPER SECONDARY or MESOZOIC.

Upper
- Chalk.
- Upper Greensand.
- Gault.

Lower
- Lower Greensand.
- Hastings Sand and Weald Clay.

Drainage Areas and River Systems.

From the description given it will be seen that the great chain of downs traversing the whole of the centre of the Island as well as the more southerly range of hills, composed as they are of Chalk and Upper Greensand, exceedingly porous rocks, with an underlying impervious clay formation, the Gault, form a vast area for the collection and storage of water, which welling out in rill and rivulet flows down the valleys and helps to make the streams which drain the Island.

The Eastern Yar.

The most extensive of these is that of the eastern water shed or river-basin, the Eastern Yar, which drains the country to the east between the two great ranges of hills. Rising at the eastern foot of St. Catherine's Down it flows immediately through the village of Niton, then through the village of Whitwell and the hamlet of Roude, past Godshill and through the moors to Horringford, and then more directly east past Newchurch and Alverstone until it at length discharges into the sea between St. Helens Spit and Bembridge Point. In its course it receives numerous tributaries, the most important of which is the Whiteley, which drains the Wroxall valley, and the stream which drains the Shanklin valley. The former rises by two heads, one at the foot of Rew Down, and the other, which flows through the valley of Wroxall, at the foot of St, Boniface Down. The Whiteley flows north past Redhill, French Mill, Bobberstone, Bathingbourne, and enters the Yar near Little Budbridge, between it and Redway. The Shanklin stream is formed by several rivulets, one of which rises to the south of Apse farm, another to the south of Ninham, another, that which flows through the Shanklin Gasworks and past Landguard, close to Shanklin. It passes by Blackpan and Borthwood, and enters the Yar to the east of Alverstone. Another small stream rises at Lake and flows across a portion of Blackpan Common to the river.

North-Eastern Basin.

The north-eastern basin, on the north of the central range, extends from Staplers Heath and Whippingham on the west to St. Helens on the east. At Brading and St. Helens there are two or three insignificant brooks. Near to Ashey Smallbrook rises, and flowing north past Great Whitefield Farm enters the sea between Ryde and St. John's. There is a small brook at Binstead and another at Quarr. Springs at Inward's Copse, Little Duxmore, and Combley give rise to rivulets, which coalesce at Blackbridge to form the stream which flows past Briddlesford and Firestone Copse into Wootton Creek. Palmer's brook rises at the foot of the hill to the west of Wootton Common, and flowing down the valley enters the sea at King's Quay. There is also a little stream at Barton and another at Osborne.

Central Water-shed

The Medina.

The central water-shed is that of the Medina and Lukeley. The Medina drains the great central valley of the Island, which is separated from the valley of the Yar by the high land of Bleakdown and Kinnerley, and from that of the Lukeley by the high land above Gatcombe and Whitcombe, and by Mount Joy near to Newport. It rises to the northwest of St Catherine's and flowing north through the Wilderness receives tributaries from the Chillerton and Gatcombe valleys. At Blackwater a stream enters it from the east which rises beyond Birchmore, and, between Blackwater and Shide, a rivulet which flows through Watergate. From Shide it reaches Newport on the south, and, winding to the east and north of that town, at the town quay enters its estuary which joins the Solent between East and West Cowes.

The Lukeley.

The Lukeley drains the Bowcombe valley. It flows through Bowcombe and Plaish and the village of Carisbrooke, and, having been joined by a stream which rises to the west of Alvington and flows to the north of Gunville down the valley south of Kitbridge, it falls into the estuary of the Medina at Newport.

North-west Basin.

The north-west basin, which extends from the high ground at Parkhurst Forest to that above Totland and Colwell, and is bounded on the south by the central chalk downs, is divided up into several shallow valleys watered by small brooks as in the north-east basin. The first of these takes its rise at Ridge Copse near Pallance Farm, and, flowing past the bottom of Tinker's Lane, enters the sea at Gurnard. The next little brook rises near the highway to Thorness close to Rodgland, which is a little north of the turning to Newtown from Newport, It flows through Porchfield into Clammerkin Creek. Two rivulets, one of which rises at Apesdown and the other to the north-west of Swainstone House near North Park Farm, coalesce north of Upper Watchingwell to form a brook, which also flows into Clammerkin Creek. The next little brooklet rises north of a wood, which lies north of the highway to the east of New Barn Farm. It flows near Five Houses past Slatbrooks into Newtown Creek.

The Shalfleet Stream

The Shalfleet stream has four sources, one at the foot of Shalcombe Down, a second at the foot of Chessel Down, the brook from which is joined at Calbourne Mill by that which rises below Westover House and flows past Winkle Street at Calbourne. These unite to the north-west of Newbridge. The fourth brook, which rises near Stoney Cross, joins the stream at Newbridge. It flows thence through the village of Shalfleet and into Shalfleet Creek. A brook which rises in a wood a little to the west of Ningwood Farm flows down the valley west of Ningwood into Ningwood Creek. Another brook, which rises between Tapnell and Churchills, flows north to near Wellow Farm and then bending to the west north of Wellow and Thorley enters the estuary of the Western Yar south of Yarmouth. Still further south another stream enters the Yar, which, rising under Afton Down, flows east of Tapnell and Wilmingham.

The Yar.

The Yar commences at the foot of Afton Down almost beneath the shingle at Freshwater Gate. After a short course it broadens out into a tidal estuary. Its most important tributary on the west is the stream which flows through School Green at Freshwater.

South-west Water-shed

The south-west water-shed is bound on the east by the high land from Sou' Down to Bexfield, on the north by the chalk downs from Kingston Down to Afton Down, and on the south by the English Channel. Issuing above the Gault many little rivulets meander to the sea. The most important streams are those of Kingston, Shorwell, and Brighstone. The Kingston stream flows from the foot of the down behind Kingston through Little Atherfield to the sea at Shepherd's Chine. The Shorwell stream rises north of Shorwell, flows through that village and past Wolverton and Yafford to Brighstone, where it is joined by the Brighstone stream which rises between Mottistone and Brighstone Downs and flows through the village of Brighstone. It falls into the sea at Grange Chine. There are other little streamlets at Chilton and Brooke.

Water Supply.

By indicating the drainage areas of the Island and by tracing somewhat in detail the courses of its running waters an idea is conveyed of the configuration of the surface and of the trend of the land. I have taken care to point out the sources of the streams, because where there is no satisfactory supply of pure drinking water, and where the people drink from the streams, one way of obtaining it at no great

Springs.

trouble or expense would be at the springs from which they take their rise. Quite diminutive covered brick tanks or reservoirs with an overflow may be constructed, from which small iron piping may be led to the centre of a village like Brighstone, for example, and which would be ample for the supply of the population with drinking water. For all other purposes the stream would be available. In my opinion it is not safe to drink from any of the Island streams.

Wells.

Although I shall return to the subject in the second part of this report, it may be well to consider here the sources of water for domestic use in the Rural District proper. In most places it is obtained from wells. Almost everywhere to the south of the chalk hills it is readily found in the Lower Greensand, often only a few feet beneath the surface, beds of sandy clay holding up the water. Many of the

Lower Greensand waters.

Lower Greensand waters are excellent and most palatable, and all are perfectly wholesome when not contaminated, as they so frequently are in the wells, by surface soak: in some districts, however, they are not only very hard but they are disagreeable in taste from the salts of iron and of other substances which they hold in solution. Such water does not make good tea, of which the Isle of Wight agricultural labourer and his family drink at every meal, and the women avoid using it in laundry work. Hence they go to the streams and even to roadside rivulets not only for water which they boil for tea-making and washing, but for that

Upper Greensand waters.

which they drink without boiling. In the Upper Greensand water is usually easily found by sinking towards the Gault The Upper Greensand waters not having the chalybeate character of some of those of the Lower Greensand are all palatable and are the best, perhaps, of the cretaceous waters. One cannot but regret that the very considerable collection of Upper Greensand water opened out while cutting the tunnel through St. BonifaceDown was not led to the northern end of it and made available for the supply of some of the eastern and south-eastern districts of the Island. But by reason of its large collecting area and its geographical position through the centre of the Island, as well as by its peculiar geological conformation, the Chalk is by far the most important water supply we have. It is probable its collecting surface is not confined to the Isle of Wight continuous as it is with the Chalk of the mainland by the synclinal curve which it makes beneath the Solent. The Tertiary clays of the Hampshire basin, which fill the synclinal hollow, do not admit of the water rising, and the Gault beneath limits its descent to the Upper Greensand. The anticlinal rise renders the water readily accessible, and at almost any spot on the northern foot of the central downs a comparatively shallow boring should yield an inexhaustible supply. The Chalk water is wholesome and very palatable, and although it is hard it is easily softened by treatment with lime. It seems astonishing that almost within stone's throw of the downs there should be a famine of water, and that Government establishments and considerable towns should have gone to enormous expense in providing themselves with a supply of surface water, uncertain in quantity and purity, when the chalk was within a comparatively short distance of them. To the north of the downs, the surface being so covered with Later Tertiary accumulations, water is obtained either from drift gravel or sand held up by drift clay or by the Tertiary clays beneath, or from the Tertiary beds themselves. Where not covered by drift it is often difficult to find water in the strip of Lower Eocene rocks at the foot of the Chalk and in the Osborne and Headon beds which, as we have seen, are at the surface to the east of and bordering on the Medina estuary, whereas at Freshwater in the same beds it is abundant. In the former case the subsoil is of clay, and in the latter of sand. Beneath the Bembridge Limestone, as I have already remarked, there appears to be everywhere abundant water of excellent quality held up by the Osborne clays. At Yarmouth good water is abundant, and at Thorley and Wellow and north of the Thorley and Wellow roads as far as Dodpits, the Limestone being uncovered by the Upper Bembridge Marls. It is found at Calbourne and Newbridge and north to the Solent, in places,

Chalk waters.

Drift Gravel and Sand waters.

Water of the Eocene beds.

Water of the Bembridge Limestone.

at no great depth, in the drift gravel and sand; and where there are no wells it is probable water would be obtained by sinking them sufficiently deep. At Ningwood, for example, there is apparently no water, but the well at Ningwood Rectory, already referred to, has been carried sufficiently deep to obtain a permanent supply From the

Surface water.

Shalfleet stream to Parkhurst water is exceedingly scarce, especially in dry weather when the water courses dry up, and there are few wells. Porchfield and the neighbouring hamlets, and Tinker's Lane and Gunville are practically without a proper supply of wholesome drinking water, but it could be found in these places below the Bembridge Limestone if not nearer the surface. Brading is well supplied with water from the Bagshot beds, but at Bembridge, Haven street, Wootton, Whippingham and other places to the east of the Medina the wells are simply surface soak wells or are sunk in drift gravel or sand. The public well at Wootton Bridge, that at Fishbourne, and the North Wells at Bembridge probably draw their supplies from a deeper

Deep well water at Bembridge.

source. At the Royal Spithead Hotel at Bembridge, a deep well has recently been sunk, the particulars of which have been kindly furnished me by Messrs. Grantham and Son, the eminent engineers of Whitehall Place. The total depth of the well is 264ft., of which 70ft. were dug, and 194ft. were bored. The water rises to within 24ft. of the surface. It is evident from the copy of the record of borings sent me that the water is obtained from the Headon or Upper Bagshot sands. I am inclined to believe it comes from the latter, in which it is held up by the Barton Clay beneath. Mr. Brown, of Tottenham, the eminent artesian well engineer, has also kindly furnished me with particulars of the borings of two wells which draw their supply from the

Newport and Wootton.

Bagshot sands. The first of these is that of Messrs. Mew and Langton at Newport. The boring was continued to the depth of 500ft. The water rose 6ft. above the surface and is discharged at the rate of 200 gallons per hour. The other is that belonging to the Halford Estate at Wootton Common. It is 404ft. deep, and the water rises only to about 100ft. from the surface.

Climate.

The exact character and position of the climate of a given locality as regards temperature and rainfall simply, can only be deduced from accurate observations made through a long series of years, compared with similar observations made with similar instruments under similar conditions in other given localities. I have before me no such observations which will enable me to define precisely the character and position of the climate of the Isle of

Thermometrical Observations.

Wight. Mr. Martin, of Ventnor, has for many years made accurate observations there, an account of which Dr.

Whitehead has published, and the late Mr. J. C. Bloxam and other observers have placed on record observations made in the centre of the Island; but as in these latter cases there is no certainty about the instruments used, I have thought it better, although no deductions of value can be drawn from them, to record simply the results of observations made in 1883. Mr. Aldridge, of the Meteorological Society, a native of the Isle of Wight, to whom I am greatly indebted for much valuable advice, recommended me to endeavour to obtain observations made on the south coast and in the centre of the Island and to compare them with those made at some station in the northern midland counties of England, and at some mild western station, and he suggested I should apply to the Rev. C. Malden, Rector of St. Lawrence, a member of your Authority, the Rev. E. W. Watts, of the Grammar School, Newport, Mr. H. Mellish, of Hodsock Priory, Notts, and Mr. Wilson L. Fox, of Carmino, Falmouth, all of whom very kindly furnished me with copies of their observations. Mr. Aldridge has been good enough to send me copies of observations made at Worthing, illustrative of the Eastern Channel, at Teignmouth, representative of the coast of South Devon, at Croydon, as a representative inland station and as illustrating the climate of Suburban London, at Ross as representative of the Western Midlands, and at Llandudno, the observations at which show the mildness of a northern site open to the ameliorating influences of a northern sea.

1883. MAXIMUM TEMPERATURE FOR THE MONTH.

MONTH.	Newport, Isle of Wight	St. Lawrence, Isle of Wight.	Worthing, Eastern English Channel.	Falmouth, Western English Channel.	Teignmouth, Coast of South Devon.	Croydon, Suburb London, Inland.	Hodsock, North Midlands.	Ross, West Midlands.	Llandudno, Coast of North Wales.
Jan.	53·5	53·1	52·2	54·1	54·5	55·1	54·5	54·5	54·0
Feb.	53·6	54·7	56·2	53·7	56·4	53·8	56·6	58·8	54·8
Mar.	55·2	55·1	53·7	53·7	58·0	55·3	55·5	56·7	52·8
April	66·8	61·6	61·1	56·6	58·5	66·0	66·5	66·9	62·4
May	75·5	65·4	72·7	66·5	73·0	75·8	74·3	75·3	65·3
June	78·4	73·3	72·4	69·2	72·9	81·4	77·0	76·9	70·0
July	76·4	69·3	73·0	67·8	72·5	80·2	75·7	77·0	67·8
Aug.	79·1	77·4	75·7	71·6	75·3	80·6	76·0	77·0	69·0
Sept.	71·9	69·5	71·3	64·1	68·1	74·7	73·0	74·8	68·6
Oct.	64·9	63·7	64·0	59·0	61·9	63·2	68·4	61·7	61·0
Nov.	57·9	58·0	56·7	55·4	56·5	56·1	56·3	56·5	59·0
Dec.	53·5	54·3	53·2	53·0	54·6	54·9	56·3	55·0	54·0

1883. MINIMUM TEMPERATURE FOR THE MONTH.

MONTH.	Newport, Isle of Wight.	St. Lawrence, Isle of Wight.	Worthing, Eastern English Channel.	Falmouth, Western English Channel.	Teignmouth, Coast of South Devon.	Croydon, Suburb London, Inland.	Hodsock, North Midlands.	Ross, West Midlands.	Llandudno, Coast of North Wales.
Jan.	28·0	34·1	30·5	36·2	31·0	26·7	22·4	27·7	30·2
Feb.	29·7	33·5	32·6	35·4	29·3	28·7	25·4	27·0	32·2
Mar.	19·9	23·7	23·3	26·8	25·0	20·9	5·3	18·8	26·0
April	26·9	31·0	32·1	35·1	34·0	26·6	23·3	28·6	32·5
May	32·8	33·0	33·2	37·0	34·4	29·9	33·3	29·5	38·5
June	37·0	43·2	40·3	47·7	42·5	40·1	37·3	40·7	44·8
July	39·6	44·8	42·3	50·7	48·2	43·1	38·0	43·2	47·8
Aug.	42·9	50·0	48·1	50·7	48·0	42·3	41·2	42·6	48·8
Sept.	37·0	47·1	44·3	48·0	44·2	40·4	38·3	37·3	46·0
Oct.	31·0	39·7	36·7	43·0	37·5	37·9	30·9	32·0	38·5
Nov.	22·6	33·0	29·6	38·0	30·6	29·0	23·3	20·4	31·8
Dec.	22·1	28·5	28·8	31·5	29·1	28·2	28·9	26·5	32·5

MEAN OF DAILY MAXIMUM.

MONTH.	Newport, Isle of Wight.	St. Lawrence, Isle of Wight.	Worthing, Eastern English Channel.	Falmouth, Western English Channel.	Teignmouth, Coast of South Devon.	Croydon, Suburb London, Inland.	Hodsock, North Midlands.	Ross, West Midlands.	Llandudno, Coast of North Wales.
Jan.	47·4	46·6	46·5	49·3	49·1	45·8	44·2	46·0	46·4
Feb.	49·0	49·8	48·7	49·4	50·1	48·6	47·8	50·7	48·7
Mar.	44·9	45·4	45·1	44·6	46·5	42·7	42·3	45·3	43·1
April	56·5	53·6	54·0	51·9	54·4	56·0	55·6	58·3	53·0
May	60·9	58·3	59·4	56·5	59·6	60·9	59·9	61·6	56·1
June	68·1	64·7	65·4	62·2	64·7	67·7	64·8	67·6	62·2
July	66·9	64·7	65·7	63·0	64·6	67·4	66·0	67·2	63·0
Aug.	70·7	68·3	68·1	64·9	68·1	71·0	68·3	70·3	64·6
Sept.	63·8	63·8	64·4	60·5	63·9	65·0	63·2	64·4	61·1
Oct.	57·3	58·1	57·7	56·1	57·4	56·8	56·2	56·5	55·1
Nov.	51·5	52·5	51·2	52·1	51·9	49·7	47·9	49·1	50·1
Dec.	45·5	46·4	45·0	48·1	47·3	45·0	44·7	45·5	47·2

MEAN OF DAILY MINIMUM.

MONTH.	Newport, Isle of Wight.	St. Lawrence, Isle of Wight.	Worthing, Eastern English Channel.	Falmouth, Western English Channel.	Teignmouth, Coast of South Devon.	Croydon, Suburb London, Inland.	Hodsock, North Midlands.	Ross, West Midlands.	Llandudno, Coast of North Wales.
Jan.	38·3	40·27	38·3	43·0	40·2	37·1	34·2	36·3	37·2
Feb.	37·0	40·2	38·7	41·8	38·0	37·8	36·3	36·4	39·5
Mar.	29·9	32·4	31·2	35·7	33·1	30·1	27·4	28·9	32·7
April	36·9	40·4	39·6	42·7	41·1	37·8	36·4	38·4	39·6
May	42·4	44·7	44·8	46·9	45·0	43·6	42·0	43·1	45·1
June	47·9	51·0	51·1	52·4	50·8	48·9	47·5	48·8	50·3
July	52·4	52·8	53·3	54·2	53·4	51·5	50·3	50·4	53·1
Aug.	52·9	55·8	55·4	54·9	54·6	53·0	49·1	51·2	53·9
Sept.	50·3	53·5	52·6	53·2	52·2	49·9	49·1	49·6	51·9
Oct.	44·2	47·9	46·4	49·4	47·2	44·6	41·2	42·9	46·9
Nov.	36·7	42·2	39·1	44·4	40·5	38·4	36.5	36·8	41·1
Dec.	37·1	38·1	36·9	42·0	39·0	35·9	36·2	36·5	40·2

1883.

MEAN.

MONTH.	Newport, Isle of Wight.	St. Lawrence, Isle of Wight.	Worthing, Eastern English Channel.	Falmouth, Western English Channel.	Teignmouth, Coast of South Devon.	Croydon, Suburb London, Inland.	Hodsock, North Midlands.	Ross, West Midlands.	Llandudno, Coast of North Wales.
Jan.	42·8	43·9	42·4	46·0	44·6	41·5	39·2	41·2	41·8
Feb.	43·0	45·0	43·7	45·3	44·1	43·2	42·1	43·5	44.1
Mar.	37·4	38·9	38·2	39·9	39·8	36·4	34·8	37·1	37·9
April	46·7	47·0	46·8	47·2	47·7	46·9	46·0	48·4	46·3
May	51·6	51·5	52·1	51·8	52·3	52·3	51·0	52·3	50·6
June	58·0	57·9	58·2	57·1	57·8	58·3	56·1	58·2	56·2
July	59·6	58·8	59 5	58·3	59·0	59·5	58·1	58.8	58·0
Aug.	61·8	62·0	61·8	59·5	61·4	62·0	58·7	60·8	59·3
Sept.	57·0	58·7	58·5	56·7	58·0	57·5	56·2	57·0	56·5
Oct.	50·7	52·5	52·0	52·4	52·3	50·7	48·7	49·7	51.0
Nov.	44·1	47·4	45·1	48·2	46·2	44·0	42·2	43·0	45·6
Dec.	41·3	42·1	41·0	44·8	43 2	40·5	40·4	41·0	43.7
AMOUNT OF RAIN.									
Jan.	3·08	2·47	2·42	3·34	3·29	2·04	2·51	4·25	2·53
Feb.	4·33	3·43	3·16	7·58	6·22	4·32	2·73	4·33	2·79
Mar.	1·08	·78	0·67	2·61	1·40	0·97	1·15	0·92	1·73
April	1·21	1·56	1·48	1·30	1·00	1·56	2·65	1·11	0·83
May	2·52	2·54	2·36	2·27	2·02	1·96	2·31	1·72	1·42
June	1·76	1·35	0·93	2·98	3·08	0·90	3·02	4·30	1·70
July	3·02	2·21	2·42	2·80	2·89	2·30	2·34	3·27	1·15
Aug.	1·21	0·73	0·87	1·51	0·43	0·59	0·99	0·81	1·82
Sept.	4·37	4·36	3·73	6·38	4·76	3·27	5·09	4·52	3·38
Oct.	2·69	2·76	2·64	4·62	2·78	1·86	3·33	2·49	4·12
Nov.	5·63	5.0	4·27	8·51	3·61	3·75	2·54	3·16	2·71
Dec.	0·96	1·25	1·10	1·86	0·48	0·62	1·17	0·64	2·09
Tot. in.	31·86	28·44	26·05	45.76	31·96	24·14	29·83	31·52	26·27
DAYS OF RAIN.									
Jan.	20	21	22	25	23	20	19	23	18
Feb.	17	19	20	19	16	16	17	18	18
Mar.	10	10	10	14	10	11	12	8	13
April	6	7	8	11	8	10	11	9	9
May	11	12	12	17	13	10	12	14	6
June	12	11	12	20	16	11	13	20	11
July	19	20	13	25	18	18	19	20	13
Aug.	7	11	13	18	9	8	13	14	13
Sept.	17	16	17	21	16	20	20	21	19
Oct.	12	11	12	20	12	15	18	20	20
Nov.	19	20	20	24	21	20	21	20	19
Dec.	11	16	15	24	9	14	19	7	14
Total	161	174	174	238	171	173	194	194	173

PLACE.	Height above Sea-level.	OBSERVER.
Newport	44ft.	Rev. E. W. Watts, The Grammar School, Newport, I.W.
St. Lawrence	80ft.	Rev. C. Malden, The Rectory, St. Lawrence, I.W.
Worthing	21ft.	Dr. J. Harris, Marine Parade, Worthing.
Falmouth	185ft.	Wilson L. Fox, Esq., Carmino, Falmouth.
Teignmouth (Bitton St.)	70ft.	Dr. Lake, Bitton St., Teignmouth.
Croydon	201ft.	E. Mawley, Esq., Lucknow House, Addiscombe, S.E.
Hodsock	56ft.	H. Mellish, Esq., Hodsock Priory, Worksop, Notts.
Ross	213ft.	H. Southall, Esq., The Greig, Ross, Herefordshire.
Llandudno	21ft.	Dr. Nicholl, Warwick House, Llandudno, N. Wales.

Low Night Readings at Newport

The low night readings of the thermometer at Newport, which so greatly increase the record of the daily range of temperature, are difficult to account for, more especially as they do not correspond with previous observations made in the neighbourhood. If no source of error exists, Mr. Aldridge thinks, and I agree with him, that these low night readings may be due to the tilt of the hills by which Newport is surrounded, and to Mr. Watts' station being low in the valley. The cold dense air, it is well known, does not remain on the hills but rolls down their sides, as water would, and collects in the valleys. Hence, there is often frost in the valleys when the hills are free from it.

Temperature in connection with Climate

But although it may not be possible to determine at present with accuracy, from a scientific stand-point, the exact position of the climate of the Isle of Wight as regards temperature and rainfall, the fact remains, that for a long period, possibly from the time of the Roman occupation, all parts of it have had a very high reputation for salubrity. In considering climate and in comparing place with place, probably too much stress is usually laid upon temperature. In the same latitude there cannot be great differences of temperature, and 2° or 3° Fahr. have little sanative value. In winter the degree of shelter from cold winds afforded is of far greater importance than such slight variations in the warmth of the air. The Isle of Wight has suffered, as have all southern English winter health resorts, from the disappointments which have arisen from making temperature unduly prominent; and not only do the places suffer, for the lives of many persons who left them because the expectations raised were not realized, may have been prolonged had they remained. You cannot find a subtropical climate in the English Channel in winter because the English Channel does not happen to be in the right latitude for it; and there cannot be a greater injustice done any health-resort than that inflicted by the exaggeration, prompted by the commercial instinct, which strains statistics to support a view which is untenable. The high reputation for salubrity which the Isle of Wight has is not altogether dependent upon its temperature in winter, but is largely due to other circumstances.

The Isle of Wight Climate is Marine and Semi-marine.

On the coast the climate is essentially marine, and in the interior it is semi-marine; but as compared with non-insular marine and semi-marine places the Isle of Wight possesses distinguishing features which have an important influence in modifying its climate. The most prominent of these are its insularity, its physical conformation, and, as already said, its geological structure. Surrounded as it is by the sea its temperature is necessarily modified and rendered more equable than it would be were it not an island. This modifying influence of the sea is most marked in winter and summer, because in winter the sea is relatively warmer than the land, and in summer it is relatively colder, while in spring it is relatively colder than the land and in autumn relatively warmer. Although it is, I believe, the universal experience of those who travel to and from the Island that when the northerly and easterly winds are blowing they are less biting here than on the mainland, they are nevertheless often very trying in exposed positions in the Isle of Wight in spring, and the south-east wind, while it lasts, is frequently decidedly cold. Standing out in the channel like a ship at sea, the Isle of Wight is necessarily exposed to every wind that blows, but the piercing easterly winds are less trying, perhaps, because in passing over the water their extreme dryness is moderated. The proximity of the sea certainly influences the humidity of the atmosphere, rendering it more hygroscopic, save in winter when it is drier on the coast than inland, an observation made first by Mr. Aldridge. The air is often perceptibly marine, briny particles being found adhering to the glass as far in the interior as Carisbrooke. It is claimed that the coast of the Isle of Wight is less subject to fogs than most seaside places. I believe that owing to the elevation of the land this to some extent is so. They do occur, however, on the southern coasts, but they seldom roll inland, and rarely cross the central chain of downs. The humidity of the atmosphere of a southern place would seem to suggest an enervating climate, and to some extent at certain seasons the description would apply to particularly sheltered places, but the Island is too hilly and the air too breezy to admit of such a description being generally applicable. The difference between the land and the sea temperatures, and the relative rates of warming and cooling of the land and sea influence very greatly the movements of the air, and this, together with the fact that for more than half the year warm southerly and south-westerly winds direct from the ocean

Features influencing its Climate.

Insularity.

sweep the Island, accounts in great measure, in my opinion, for its extreme salubrity. The breezy atmosphere modifies the temperature of summer no less than the warm winds do that of winter, and the constant movement of the air by increasing its dispersive and oxidising power, helps to remove deleterious influences which otherwise may prove sources of evil.

Physical Conformation.

Variety of Climate.

To its physical conformation more, perhaps, than to its distinct marine and semi-marine character is due the variety of climate which within certain limits the Isle of Wight possesses, and which, considering its area, is remarkable. The downs which traverse the Island from east to west with their spurs and subsidiary ranges afford protection from cold winds even north of the main range, but more completely south of it, and many sheltered nooks are to be found among the tertiary hills nearly to the northern coast; while the southerly chain of downs form a second barrier protecting the south-east coast from the cold northerly and north-easterly winds. The precipitous down of St. Boniface rising to an altitude of nearly 800ft., which shelters Bonchurch and Ventnor, joins Rew and Week and St. Catherine's Downs, the sea faces of which form a continuous escarpment or wall some 60ft. to 80ft. high, or more, for many miles shielding the strip of coast at its foot, known locally as "under-the-cliff," as far as Blackgang. From its position the greater part of the Undercliff is protected from the force of south-westerly gales; and the portion of it not so protected is even more completely sheltered from the north and east although it is exposed to the warm south-westerly breezes. That part of the coast which extends from Shorwell to Brooke, upon which Brighstone and Mottistone stand, is well protected by the downs to the north of it; and a road which skirts on the west that spur of Kingston Down known as Sou' Down, near to Chale, is particularly well sheltered from the east and north-east. But in almost every part of the Island localities more or less sheltered from cold winds are to be found, an important factor in estimating the sanative value of a climate. That climate has the highest value in which the greatest number of hours can be passed in the open air, and, at least in these latitudes in winter, in which the greatest number of persons can keep the functions of the skin active during out-of-door exercise without unduly hurrying the circulation. The contour of the land is such, however, that in the immediate neighbourhood of warm sheltered places the climate is totally different not only on the hills but in exposed positions on the coast. Blackgang, elevated considerably above the sea at the southerly or sou'-sou'-westerly extremity of the Undercliff, is bracing, though protected on the north and east; and the climate of the Undercliff varies distinctly from that of the coast between Bembridge Down and Shanklin Down, which again varies from that of the still more exposed Solent coast. The elevated and open positions on the north and north-east coasts are decidedly bracing, while the less elevated north-west coast is less so, but even on the northern coasts the character of the vegetation testifies to the modifying influence of the sea. The atmosphere of the breezy downs and highlands in the centre of the Wight is exhilirating, and drier than on the coast, and though mild the climate is bracing. So perceptible are the differences of climate that invalids and convalescents among the residents of the Island, are sent to, or choose for change, different positions on the coast or in the interior according to the nature of their ailments.

Rainfall influenced.

Freshwater Down, the elevated headland at the extreme west of the Island, appears to have an influence on the rainfall. The rain clouds as they come up from the sea may often be observed to divide there, one portion passing up the Solent to be condensed on the hills of the opposite coast, and the other passing up the Channel.

Sunshine.

Perhaps one of the most striking and important features of the Isle of Wight climate, in winter especially, as compared with that of inland places, is the amount of sunshine. This is to be accounted for in part by the fact that the direction of the hills is from east to west, and in part by the influence of Freshwater down in diminishing cloud, and by the absence of land fog.

Sanitary bearing of beautiful Scenery.

Beauty of scenery may seem but remotely connected with climate; it has, nevertheless, a sanitary bearing because its attractions add very greatly both to the permanent and floating population of the Isle of Wight; and its influence upon the invalid is of considerable sanitary moment.

Geological Structure.

Soil.

While the geological formation of the Isle of Wight has determined the peculiar physical geography upon which many of its climatic advantages depend, its direct influence is more especially apparent in the nature of its soil. As we have already seen, the great bulk of the Island is composed of cretaceous rocks, which are very porous, and which lie immediately beneath the surface, and the strata of the Chalk of the great area of the central downs are but little inclined from the perpendicular, and the Eocene beds, some of which are of clay, lying against their northern face, are also perpendicular; a great part of the tertiary rocks are covered by considerable accumulations of Post Eocene gravel and sand; and where these do not exist the undulations of the surface and dip of the beds have the effect of running water off quickly. The result is a comparatively dry soil and little stagnant damp.

Administration of the Rural Sanitary District.

For administrative purposes in the Rural Sanitary District the natural division of the Island formed by the Medina river is adopted, the East and West Medene being placed under the inspection of two Sanitary Inspectors, one for each division, who devote their whole time to the work. In the East Medene are situated the ancient borough of Brading, the eastern outskirts of the borough of Newport, important suburbs of Ryde, as Binstead and Haylands, and the suburbs of the towns of Sandown, Shanklin and Ventnor. Included in it are such important watering-places as Bembridge, Bonchurch, and St. Lawrence and the Undercliff. In it, also, are semi-urban places or large villages like Wroxall, Wootton, and Niton, in which—especially in the former place—new buildings are being erected; and the strictly agricultural villages of Whitwell, Godshill, Newchurch, Arreton, Merston, Haven street, and Whippingham; and hamlets like Fishbourne, Ashey, Adgestone, Alverstone, Hale Common, Rookley, Roude, and Nettlecombe. In the West Medene sub-district are included the ancient borough of Yarmouth, the decayed borough of Newtown, and the western outskirts of the borough of Newport. Rising watering-places, as Gurnard, Freshwater, Totland, and Colwell, which are rapidly developing into important towns in which buildings, upon which much of the sanitary future of those places will depend, are being erected uncontrolled by law or regulation, are included in it; as are, also, such embryo watering-places as Bouldnor and Blackgang, which are destined to increase. It contains the semi-urban place or large village of Carisbrooke, in which, as in other parts of the neigbourhood of Newport, new houses are being built; and the strictly agricultural villages of Chale, Gatcombe, Chillerton, Shorwell, Brighstone, Brooke, Newbridge, Thorley and Wellow, Shalfleet, Gunville, and Northwood; and the hamlets of Atherfield, Mottistone, Ningwood, Porchfield, and Tinker's Lane.

East Medene.

West Medene.

II.

Following the directions to medical officers of health in preparing their annual reports contained in the Order of the Local Government Board, I will group my remarks under the following heads:—

1.—Vital Statistics.
2.—The Sanitary History of the Year.
3.—The Sanitary State of the District generally at the Close of the Year.

1.—VITAL STATISTICS.

The Instructions explanatory of the General Order defining the duties of the medical officer of health direct that the tabular statements of the sickness and mortality within the District classified according to diseases, ages, and localities "should be the subject of comment in the text "of the report in so far as deductions from them may assist "the Sanitary Authority to an appreciation of the lines of "action needful in the future."

I regret that as I have not been furnished with the necessary information I am unable to make a tabular statement of the sickness which prevailed in the District during the year.

Population

In 1881 the Isle of Wight Rural Sanitary District had a population of 28,008, of whom 14,428 were males and 13,580 females.

Births and Deaths.

During the year ending December 31, 1883, the births of 776 children and the deaths of 429 persons were registered. Of the births 398 were males and 378 females, Of the deaths 225 were male and 204 female.

Birth-rate and Death-rate.

Estimating the population in the middle of the year at 28,120, the birth-rate was equal to 27·5 and the death-rate to 15·2 per 1,000 persons living. But 46 deaths occurred within the District among persons not belonging thereto, and deducting these the death-rate was equal to 13·6 per 1,000 of persons living.

The birth-rate in England and Wales in 1883 was equal to 33·2 and the death rate to 19·5 per 1,000 persons estimated to be living in the middle of the year. The death-rate in small towns and country parishes in England and Wales was equal to 17·7 per 1,000 persons living.

In the Isle of Wight Rural Sanitary District, therefore, the birth-rate in 1883 was 5·7 below the average birth-rate of England and Wales, and the death-rate was 4·3 below the average death-rate, or deducting the deaths among persons not belonging to the District who died within it, 5·9 below the average. As compared with the death-rate in small towns and country parishes, the death-rate was 2·5 below the average, or, deducting the deaths among persons not belonging to the District who died within it, 4·1 below the average.

The death-rate of males at all ages was 15·5 and of females 14·9 per 1,000.

Infant Mortality

The rate of infant mortality measured by the proportion of deaths under one year of age to registered births was equal to 85 per 1,000, the corresponding rate for England and Wales being 137. 102 children, or 23·7 per cent of the deaths, died under 5 years, and 179 persons, or 41·7 per cent. of the deaths, died at or over 60. 126 persons, or 29.3 per cent. died over 70, of whom 69 were between 70 and 80, 52 between 80 and 90, and 5 were over 90.

Mortality of the Aged.

46 persons died within the District who did not belong thereto. Of these 27 died in the Workhouse, 16 in the Consumption Hospital at St. Lawrence, and 3 bodies were washed ashore from wrecks on the coast.

Deaths by Violence.

13 persons died a violent death—3 by drowning, 4 by falls, 1 by being run over, 1 on the railway, 1 by shooting, 2 by burns and scalds, and 1 by suicide (hanging). With the exception of one woman, a domestic servant, who died from burns, and two women whose bodies were washed ashore at Mottistone, these were all males. The death-rate of deaths from violence is equivalent to ·46 per 1,000, the mean death-rate for England and Wales being ·76 per 1,000.

Mortality from certain Diseases.

Zymotic Diseases.

The 429 deaths from all causes included

9 attributed to measles
5 „ „ scarlatina
6 „ „ diphtheria
7 „ „ whooping-cough
5 „ „ fever
3 „ „ diarrhœa
35

The 35 deaths referred to these principal zymotic diseases were equal to a rate of 1·2 per 1,000. The rate for England and Wales was 2·2 per 1,000.

Phthisis.

53 persons died from phthisis, or consumption, in the District, 16 of whom, who were strangers to the Island, died in the Consumption Hospital. This would be equivalent to a death-rate from phthisis of 1.8 per 1,000, or deducting

16 deaths of persons who did not belong to the District, of 1·3 per 1,000. The mean annual death-rate from phthisis in England and Wales is 2·4 per 1,000 of persons living.

Lung Diseases.

64 persons died of other forms of lung disease, of whom 3 did not belong to the District. This would be equivalent to a death-rate of 2·2 per 1,000, or, deducting the 3 deaths of persons who did not belong to the District, of 2·1 per 1,000. the mean death-rate for England and Wales being 3·3 per 1,000.

Heart Disease.

42 persons died of heart-disease, which would be equal to a death-rate from heart disease of 1·4 per 1,000, or, deducting the deaths of 4 persons who did not belong to the District, of 1·3 per 1,000, which is the mean death-rate from heart disease in England and Wales.

Cancer.

15 persons died of cancer, equivalent to a death-rate of ·53 per 1,000. The mean death-rate from cancer for England and Wales is ·38.

Scrofula.

Scrofula and tuberculosis caused 14 deaths, which is equivalent to a death-rate of ·49 per 1,000, the mean death-rate from scrofula for England and Wales is ·78 per 1,000.

Population and Death-rate of Parishes.

The following table gives approximately the population and estimated population of the parishes and parts of parishes in your District taken from the Census returns of 1881, and calculated to the middle of 1883, together with their general death-rate and their death-rate from zymotic disease. The estimate of population in many of the parishes is probably too high, and as some of them are wide and contain several villages and parts of towns, the deductions to be drawn are less conclusive than they would be had it been possible to furnish me with the separate population of the several villages and townships for which I applied to you.

For example, the zymotic death-rate for the parish of Brading was 3·46 per 1,000, but assuming the population of the town of Brading to be 800, the zymotic death-rate would be 11·25 per 1,000. The death-rate of the small parish of Mottistone was apparently 20·9 per 1,000, but the deaths included two from drowning, the bodies having been washed ashore from a wreck. Deducting these, the death-rate of Mottistone would be equal to 6·9 per 1,000 only. The deaths in the parish of Brooke included 3 which occurred at the Brooke Coast Guard Station.

Registration Sub-Districts.	Parishes.	Population estimated to middle of 1883.			Deaths.			Death rate per 1,000.	Zymotic death rate per 1,000.
		Males.	Females.	Total.	Males.	Females.	Total.		
COWES	Northwood	934	940	1874	11	13	24	12·8	1·06
	Whippingham	383	412	795	6	5	11	13·8	
NEWPORT	St. Nicholas	40	55	95					
	Carisbrooke	1360	1196	2556	11	18	29	11·3	·78
	Workhouse	210	172	382	16		16	41·8	
	Gatcombe	220	106	226					
	Arreton	940	982	1922	10	8	18	9·3	·52
	Wootton	47	64	111	4		4	36·0	
RYDE	Binstead	363	460	823	7	8	15	18·2	
	Newchurch	703	708	1411	7	9	16	11·3	
	Ryde	650	830	1480	10	15	25	16·8	2·7
	Brading	1851	2189	4040	25	35	60	14·8	3·46
	Yaverland	120	37	157					
	Shanklin	16	26	42					
GODSHILL	Bonchurch	269	404	673	3		3	4·4	
	Ventnor	101	139	240	2	2	4	16·6	4·16
	St. Lawrence	55	84	139	1	1	2	14·3	
	Consumption Hospital.	63	63	126	14	4	18	142·8	
	Whitwell	331	381	712	4	3	7	9·8	
	Niton	391	420	811	3	6	9	11·0	1·23
	Chale	345	340	685	3	3	6	8·7	1·45
	Godshill	666	651	1317	9	7	16	12·1	
	Kingston	31	38	69		1	1	14·4	
	Shorwell	346	302	648	3	7	10	15·4	
CALBOURNE	Brixton	252	266	518	1	3	4	7·7	1·93
	Mottistone	69	74	143	2	1	3	20·9	
	Brooke	91	106	197	7	2	9	45·6	5·07
	Calbourne	357	343	700		2	2	2·8	
	Shalfleet	537	492	1029	10	6	16	15·5	2·91
	Thorley	99	95	194	2	1	3	15·4	5·15
	Yarmouth	361	423	784	6	8	14	17·8	
	Freshwater	1484	1350	2834	17	8	25	9·0	·70

(A) Table of deaths during the Year 1883, in the Rural Sanitary District o
and showing also the Population of such Localitie

Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities.	POPULATION AT ALL AGES.		Registered Births.	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES.								Small pox
	Census 1881.	Estimated to middle of 1883.		At all ages.	Under 1 Year.	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and upwards		
1	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
NEWPORT			178	52	8	4	5	3	8	24	Under 5. .... 5 upwds.	.....
WORKHOUSE				57	3			1	14	39	Under 5. .... 5 upwds.	.....
PARKHURST PRISON				16					12	4	Under 5. .... 5 upwds.	....
COWES			60	35	7	5			6	17	Under 5. .... 5 upwds.	....
RYDE			218	106	21	17	6	7	25	30	Under 5. .... 5 upwds.	....
GODSHILL			151	69	12	3	3	4	15	32	Under 5. .... 5 upwds.	...
CONSUMPTION HOSPITAL				18				6	12		Under 5. .... 5 upwds.	...
CALBOURNE			169	76	14	8	3	2	16	33	Under 5. .... 5 upwds.	....
											Under 5. .... 5 upwds.	..
TOTALS	28008	28120	776	429	65	37	17	23	108	179	Under 5. .... 5 upwds.	..
The subjoined numbers have also to be taken into account in judging of the mortality of this Division of the Sanitary Distri												
Deaths occurring outside the division or district among persons belonging thereto .				..	..	..	..	..	..	..	Under 5. .... 5 upwds.	
Deaths occurring within the division or district among persons not belonging thereto				46	2	..	..	8	18	18	Under 5. .... 5 upwds.	

ISLE OF WIGHT, Classified according to DISEASES, AGES, and LOCALITIES,
Births therein during the Year.

ORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.

Scarlatina 15.	Diphtheria 16.	Croup (not "spasmodic.") 17.	Whooping Cough. 18.	Cont. Fevers.			Diarrhœa and Dysentery. 22.	Cholera. 23.	Rheumatic Fever. 24.	Erysipelas. 25.	Pyæmia. 26.	Puerperal Fever. 27.	Ague. 28.	Phthisis. 29.	Bronchitis, Pneumonia, and Pleurisy. 30.	Heart Disease. 31.	Injuries. 32.	All other Diseases. 33.
				Typhus 19.	Enteric or Typhoid. 20.	Other or doubtful. 21.												
1		1												1	2			6
2		1												3	7	9	1	18
															1			1
														5	5		1	34
														2	6	2		6
1															3			7
														1	1	6		15
	4	2	1				1								6			15
1	2						1							13	8	8	3	33
							1								3			9
					1	1			1			1		7	8	10	1	26
									1					16	1			
			5		1										8			8
			1			2					1			5	5	7	7	26
2	4	3	6		1		2							1	23			46
3	2	1	1		1	3	1		2		1	1		52	41	42	13	158
																		2
														16	3	4	3	18

2.—THE SANITARY HISTORY OF THE YEAR.

The instructions further direct that "the sanitary history "of the year under review, should include a record alike of "the proceedings of the Medical Officer of Health him-"self, and the proceedings taken under his direction or "advice."

Zymotic Diseases.

In writing the sanitary history of the year, the deaths from zymotic, that is to say, from preventible diseases, claim the first attention. For although the death-rate from zymotic disease was low, yet if only one preventible death occurred in your District, and if that death was due either directly or indirectly to the negligence or apathy of any of those whose duty it is to safeguard the public health, most serious responsibility has been incurred.

Diphtheria.

Before I took office there were deaths early in the year in connection with epidemics of measles, whooping cough, and diphtheria. The epidemics of measles and whooping cough died out, but later in the year diphtheria again appeared at Brading, and three children died. In two of these cases, I concluded the source of the poison was probably the ventilator of the unflushed sewer in Station road, near which the children lived. In each of the two houses a watercloset connected directly with the sewer. The soil pipes of these closets have since been ventilated and disconnected, and a ventilating shaft has been placed in the Station Road sewer near the ventilator. Diphtheria caused 6 deaths during the year, all at Brading, where zymotic diseases prevail. Diphtheria was present in Brading during the winter of 1882. There were deaths in houses adjoining the Red Lion Inn, the well of which I found was polluted from a soak beneath these houses, which drained by an old brick drain into what is known as the Commissioners' drain, constructed some years back by the Highway Commissioners to carry off surface water. The house drain was imperfect and sewage flooded the space beneath the floors of the cottages. This has been remedied.

Measles.

Measles caused 9 deaths, 3 of these took place at Brading, 3 at Bembridge, 2 to the south of Ryde, and 1 at Gurnard.

Whooping cough.

Whooping cough caused 7 deaths, which, with the exception of a death at Whitefield, near Ryde, all occurred in connection with an epidemic of the disease in the villages at the west of the Island,—at Shalfleet, Wellow, Thorley, Freshwater, and Brooke.

Scarlatina

Scarlatina, introduced from the towns, has been prevalent in your District, but in almost every instance in which I have been made acquainted with the existence of the disease, it has been confined to the house in which it originated, and, excepting at Gurnard, it has not been necessary to close the schools. Five deaths occurred, 1 at Brading, 3 in the neighbourhood of Newport (the disease having been contracted in that town), and 1 at Gurnard. Until this death at Gurnard was registered, I had not discovered that scarlatina was epidemic there. A great many persons, adults as well as children, had been ill of the disease, but after measures of isolation and disinfection were taken only one family were attacked. At Brading, also, the spread of the disease was arrested.

The Isle of Wight is particularly liable as a health resort to the introduction of the germs of some of the zymotic diseases, and especially of those of scarlatina.. Convalescents are sometimes sent here before desquamation has ceased, or without the precaution of fumigating the clothes with sulphurous acid having been taken. Many cases of mild scarlatina are not recognized, and these cases are the most fruitful source of danger to others.

Spread of Zymotic Disease.

In almost every case the spread of contagious zymotic disease may be prevented by efficient isolation and disinfection, if information of the disease be given to the medical officer of health.

Notification.

In accord with your instructions, one or two of the parish medical officers acquaint me of cases which occur among their pauper patients, and all the registrars send me word immediately a death from zymotic disease is registered, but, as a rule, I am dependent upon information which may reach me from private sources, either directly or through the inspectors.

Isolation.

Isolation is difficult in small houses and in crowded neighbourhoods, but it can be secured in some measure by warning the neighbours to avoid those infected. It is a matter of regret that save as regards pauper patients you have no isolation hospital. The want would be seriously felt in the event of an outbreak of cholera or of small pox. An inexpensive cottage hospital would be sufficient to form a nucleus about which temporary canvas or wooden structures could be erected in times of epidemic. A disinfection chamber should be built, and a covered carriage of some kind, which may be bought cheap, should be secured as an ambulance. A respectable man and his wife could be found, no doubt, to act as caretakers, if they were allowed residence and coals and a sum for each case admitted. One such hospital would be sufficient for the whole Island, and if the various sanitary authorities were to combine, the expense to each would be small.

Isolation Hospital.

Disinfection.

Disinfection, when the time comes for it, should always be insisted on, and should be carried out under the supervision of the inspectors. It is creditable to the inspectors that scarlatina, although continually introduced into your

District, has spread in so few cases, but it is not sufficient to leave disinfectants at a house, they should see they are properly applied. The plan adopted is to burn sulphur in the rooms after closing the chimney openings and the doors and windows. The clothes and bedding are hung on lines stretched across the rooms, and the beds and mattresses are turned up in order that the sulphurous acid fumes may reach every part.

Children should not be permitted to return to School without certificate of freedom from infectiousness given by a medical man, and without certificate that the house has been disinfected to the satisfaction of the sanitary authority.

Prevention.

Next after limiting the disease actually existing attention has been directed to its prevention. With a view to maintaining the purity of water endeavour has been made to persuade owners of property to render their cesspits watertight or adopt pail closets, and to keep out surface soakage from their wells. Several premises have been connected with the sewers, especially at Yarmouth and Brading, and every effort has been put forth to secure a complete air-break between the sewer and the interior of houses. But in the absence of compulsory regulations the simplest and most obvious sanitary precautions are often neglected.

Inspection work.

The inspectors have prepared for me the following summary of their work.—

	WEST MEDENE.	EAST MEDENE.
Number of nuisances reported	152	127
Number of nuisances abated without final notice	84	80
Number of notices served	51	133
Houses reported unfit for habitation	1	4
Houses placed in habitable repair		3
Houses cleansed and disinfected	19	21
Houses closed by order		2
Legal proceedings taken under the 126th Sec. P.H.A.	...	..
Cases of overcrowding reported	2	3
Cases of overcrowding abated	2	3
Privy cesspools provided and properly constructed	58	8
Privies put on the pail system	21	5
Wells sunk and improved supplies of water obtained	5	2
Wells cleansed	13	3
Wells closed	..	3
Defective pumps repaired	1	2
Pumps provided	3	3

66 houses were built during the year and occupied, 52 with the Certificate of the Authority under Sec. 6 of the Public Health (Water) Act, and 14 without certificate.

HOUSES BUILT AND OCCUPIED IN 1883.

WEST MEDENE.			EAST MEDENE.		
	With Certificate.	Without Certificate.		With Certificate.	Without Certificate.
Freshwater ...	14		Newport ... (Fairlee Road)	2	
Yarmouth ...	1		Staplers ...	1	
Bouldnor ...	2		Wootton ...	2	
Newbridge ...	1		Binstead ...		2
Porchfield ...		1	Bembridge ...	2	
Tinker's Lane	3		Godshill ...	2	
Gurnard ...	6		Apse Heath..		2
Chillerton ...		1	Lake ...	6	
Blackgang ...		2	Gatten ...	7	
			Bonchurch ...	1	
			Wroxall ...		6
			Niton ...	2	
	27	4		25	10

In June a Local Government Board enquiry was held at Bonchurch respecting the drainage of that place.

3.—THE SANITARY STATE OF THE DISTRICT GENERALLY AT THE END OF THE YEAR.

The Instructions also direct that the annual report "should be chiefly concerned in the conditions affecting "health in the District and with the means for improving "those conditions. It should consider these subjects with "reference to the future as well as to the past, and the "account of the Sanitary state of the District generally at "the end of the year, should, while marking the point that "has been reached in the Sanitary state and administration "of the District, indicate directions for further considera-"tion and action."

Having informed myself of the general sanitary condition of the District by visiting every part of it alone and with the Sanitary Inspectors, and in many of the villages having made from house to house inspections, I will, in obedience to the above quoted instructions, proceed to lay before you an account of its state at the end of the year, I will consider the conditions in it affecting health, and the means for improving those conditions, and I will indicate the policy, which, in my opinion, should guide you in its future administration.

Essentials to Health.

To maintain health, the dwelling must be healthy The house should be dry, warm, and well ventilated. To this end the area upon which it stands should be well drained, and in some cases it should be cemented or concreted over; its walls, which should be sufficiently thick, should have a damp course to prevent damp rising, and should be built hollow and be otherwise so constructed and of such materials as to prevent moisture soaking through. The roof, of course, should be water-tight. The rooms should be airy and light. The bed-rooms should be sufficiently numerous for the occupying family, and they should have fireplaces as an aid to ventilation and in cases of sickness. The windows should be placed on opposite sides of the building to ensure through draft, and if they are sash windows they should be made to open at top as well as at bottom. If it be possible to avoid it no drain should pass beneath a house, and on no account should any sewer or closed drain open within the building. There should be a free current of air about a house, and it should be kept pure by the immediate removal of all filth and refuse to a distance from it. The safe disposal of excrement, the proper construction of cess-pits, which must be absolutely water-tight, and their ventilation, and the proper construction and frequent flushing of open drains and sewers, and the ventilation of the latter, are of the first moment in connection with the preservation of health, as is an abundant supply of pure water.

Speaking generally, throughout your District some of these essentials to the maintenance of health, and in portions of it several, are wanting.

House Construction.

The Houses, many of them, are well and substantially built. In the more rural parts some of the old cottages are constructed of porous stone without a damp course, and both the walls and stone floors are damp, especially after rain. The windows are small and are placed only on one side of the house, and the bedroom accommodation is insufficient, large and growing families have to sleep in two rooms which are without fireplaces usually, and are frequently unceiled. Both doors and windows are ill-fitting, admitting plenty of fresh air, which, excepting to the aged and very young in winter, can scarcely be viewed as an unmixed evil. Many of the modern brick-built cottages do not compare favourably with their more ancient neighbours. The rooms are smaller and more stuffy, and the walls, built of inferior bricks and indifferent mortar, are thin. The houses are consequently cold and damp, which is not surprising seeing that a porous brick will absorb a pound of water. All outside walls should have a properly ventilated air cavity, No care is taken to prepare the site on which the house is built. If sufficiently level, the turf is not even removed but shallow trenches are cut in it to receive the foundations of the walls. The floor joists almost rest upon the ground, and the space beneath them is sometimes unventilated. The drainage of the site of a house is less necessary in the Isle of Wight, in many cases, because the subsoil is of chalk, or sand, or gravel; but it must not be forgotten that damp favours many diseases, and especially consumption, and rheumatism and, consequently, its frequent associate, heart-disease. The majority of the scattered rural cottages have large gardens, as have many of those in the villages, a fact of great sanitary importance. All refuse matter should be returned at once to the earth—the garden and the farm are valuable aids in sanitation.

On the Osborne and another large estate particularly, and elsewhere, a large number of superior labourers' dwellings have been erected during recent years which, notwithstanding defects, may be described as model cottages. Doubtless these have had an influence in reducing the death and sickness rates and with them the taxation of the general body of ratepayers. There are still two or three old cottages remaining which are scarcely fit for human habitation, and these have been reported to you from time to time.

In the urban and semi-urban portions of your District the construction of the old houses with all their faults is superior for the most part to that of the new, many of which have not only the defects above described but they are built upon a space too confined to be of sanitary utility. In a place like the Isle of Wight with great possibilities before it as regards increase of population, resident and visiting, and with a limited area, much speculation in land is likely. Plots of land are divided into building lots and again subdivided, building speculation is stimulated, and a number of indifferently constructed dwellings are crowded on to a space far too small to admit of the proper disposal of filth and refuse or, in the absence of precautions, of the possibility of maintaining the water pure. Then, the general body of ratepayers are called upon to provide an independent water supply and sewers, the particular parts of the District being too much in embryo and too poor to bear a burden which has arisen from no short coming or fault of the majority. Much of the present expenditure is due to neglect in the past; and that sanitary evils may not constantly accumulate in the future, I would strongly advise you to strictly supervise the construction of all new houses.

Sewage Removal.

Sewage removal may be taken to include the removal of excremental matter as well as of all liquid and solid filth and refuse.

Sewers.

Sewers drain in part Binstead and Haylands; but the most important sewers in your District are those of Bembridge, Brading, and Yarmouth. In my opinion it was a mistake to construct those sewers until an independent water supply had been obtained, or until other measures had been devised for flushing them. The construction of these sewers before the means existed of rendering them inoffensive was probably forced upon the Authority either because of laxity in permitting, or because you had not power to prevent, the creation of nuisances by a small minority of the population. There can be no doubt, I think, that the health of Brading has been less satisfactory since the sewer was made. Last winter (1882-3) there was an outbreak of diphtheria, and deaths from that disease have taken place there since I took office. The source of the poison in some of these cases would be found in leaky brick drains under the floors of living rooms—all drains passing beneath houses should be pipe drains bedded in and covered with concrete—and in others in the effluvium from street ventilators, one of which is placed near the National Schools. The stench from the ventilators at Brading is almost unendurable. It was worse at Yarmouth last summer, and even more trying to the inhabitants, because the street gullies were untrapped. This defect has been remedied, but the danger to health has been greatly added to by closing the street ventilators, as has been already reported to you. At Bembridge and at Haylands the stench is less overpowering although still sufficiently perceptible, because the ventilators are partially closed by dirt boxes. The result of this closure and partial closure of the ventilators must be that much sewer gas finds its way into the houses.

Flushing.

The frequent effectual flushing of all the sewers in your District is a matter which should engage your most anxious attention. Flushing tanks of sufficient size should be constructed at the head of each branch of the sewers. At Brading there would be little difficulty in filling them either with surface water or from the wells; at Bembridge and at Yarmouth to do so would involve greater labour. It is said that after flushing, the stench from the sewer is as bad as before. This is due to the emptying of the unflushed branches and the house drains by the partial vacuum caused by the rush of water. It is to be met by a second flushing.

Connections with Sewers.

It is of the first importance that connections with the sewers should be properly made. At Brading, the person appointed to superintend the connections has been furnished with excellent instructions, but at Bembridge and at Yarmouth no such instructions have been given.

Traps.

The trap almost universally employed in houses, and in which implicit faith seems to be placed, is the common bell-trap, which, when perfect, opposes only a quarter of an inch of water to the pressure of sewer gas. The reliance in the efficacy of traps appears to be general in your District, but although many of them are useful auxiliaries, no trap gives immunity. Safety can only be secured by a complete air break between the sewer or cess-pit and the interior of a house. The trap used in water closets, the soil pipes of which are not generally ventilated or disconnected, is the D trap. In some cases it has been possible to persuade owners to allow the scullery drain to discharge by an open pipe near a gulley trap, and at least to ventilate the soil pipe of the closet.

Cess-pits.

Scattered houses of the better sort in the country and those situate in villages, and nearly all houses in the urban and semi-urban parts of your District which do not drain into sewers, drain wholly or in part into closed cess-pits. Into these pass in many cases not only the drainage from the closet but the house slops of all kinds, the storm water and even the rain water from the roofs. They are in the form of dead wells of varying depths, and are lined loosely with bricks for the most part to admit of the contents soaking away in the surrounding soil. It is not an uncommon practice to dig the drinking well within a few feet of the cess-pit, sometimes within six feet of it. The well is lined loosely with bricks to admit of water soaking into it—so that the contents of the cess-pit pass into the drinking well, having been filtered by the intervening soil. This in time is saturated with sewage, and the water previously contaminated, becomes perceptibly so, or the sewage passes uufiltered along a seam of gravel, or a fissure, directly to the well. In many parts of your District the water bearing stratum is what is known as "running sand." In order to get rid of the sewage more quickly the cess-pit is often carried down to this water bearing stratum. At Bonchurch the houses drain into deep cess-pits, and when the water wells became contaminated they were used for sewage purposes. In this manner the natural water supply of the place has been destroyed. Unfortunately the evil example of Bonchurch has been and is being followed in other places. At Lowtherville a deep cess-pit is being constructed to carry a portion of the sewage down into the fissured hill from which Ventnor draws its supply of water. At Lake another deep cess-pit has been carried down to the water bearing stratum, the effect of which will be that sooner or later an uncontaminated well, from which many people at Lake obtain their drinking water will be destroyed. Your attention has been already called to this matter in strong terms. If the soil about the cess-pit be not sufficiently porous to absorb the sewage, an overflow pipe leads it into a convenient ditch, or stream, or watercourse, or into the road gutter. The improper construction of cess-pits is one of the most serious defects of your District, a defect to which no Sanitary Authority can afford to be indifferent. Every cess-pit should be rendered absolutely watertight by clay puddle nine inches thick outside, and cement inside. It should be of small dimensions to compel frequent emptying and only the drainage from the closet should be allowed to pass into it. The soap water and house slops should be thrown on to the land at a distance from the water well, or should be stored in a covered receptacle away from the house for garden use. In reply to a query, I would say, if your soap water and house slops cannot be applied to the benefit of fruit trees and cabbages of your own, they may help to increase the productiveness of your neighbour's garden. The rain water should be stored in tanks or passed off with the storm water in open channels. All cess-pits should be ventilated so that the pressure of the gases generated in them may not force an entrance into the dwelling, and as sewer gas is absorbed on the sewer side of a water trap and discharged on the house side, there should be a perfect air break or disconnection between the sewer or cess-pit and the interior of the house.

Privies.

Open cess-pits beneath the old fashioned garden closet are found in all parts of your District, but especially in the country, and although less objectionable in a sanitary sense than the closed cess-pit, and although time-honored, they are neither cleanly nor wholesome in the state in which they are usually seen. Water soaks into them from the surrounding soil, for they are rarely made watertight, or the storm water finds an entrance to them. They are frequently a source of danger in connection with the drinking well. If we will but study the beautiful operations of Nature, and humbly follow the guidance of her unerring laws, we may render our sewage harmless, not by burying it in the ground, but by spreading it on the surface of the land where it will be oxidised by the air and become the food of plants and will be converted into their substance.

Pail Closets.

The most cleanly, convenient and safe plan of collecting it is in some sort of pail. Many of the old midden closets in the West Medene have been re-constructed and converted into pail closets, and some of the new houses have been provided with them. The closet seat is hinged, the pit filled up, the area beneath the seat paved or cemented, and a zinc bucket placed upon it. A box containing sifted ashes or earth which has been kept under cover until it has become dry, completes the arrangement. After the closet has been used the seat is lifted and a scoopfull of ashes or earth is thrown into the pail. Once a week, or oftener, it is emptied in a corner of the garden or on adjoining land, and the contents covered with a few spadefulls of earth. Thus a stock of valuable fertilizing material is accumulated for use when the garden is dug over.

Dust Bins.

Dust bins for dry house refuse are usually too large, and are often insufficiently protected from wet. They are frequently situated too near the windows of the house and in dangerous proximity to the well. Sometimes they are sunk beneath the surface and water soaks into them from the soil. Where there is sufficient garden land the better plan is to spread the refuse at once upon the surface, and to burn such of it as cannot be so treated.

Pig Sties.

In portions of your District, particularly in those having an urban character, pig sties are a recurring nuisance from infrequent scavenging. Too many pigs are kept, and the soil being saturated with filth, the sties are a source of danger to some of the unprotected wells.

Slaughterhouses.

Slaughterhouses are for the most part kept clean and in good order; but a horse-slaughtering establishment on Standen Heath is a source of constant annoyance to those living in the vicinity. The flesh, if fresh, is sent to London, but if putrid it is kept with the bones and entrails on the premises. These were formerly scattered over a field in which pigs ran, and when complaint was made they were buried. Having regard to the possibility of the field becoming a site for building, the occupier was directed to collect the offal into heaps on the surface and cover it with quicklime and earth. He does this so imperfectly that the stench is perceptible at a considerable distance. It is unfortunate you do not possess power to regulate slaughterhouses, and to compel the destruction of offensive matter by cremation or in some other manner.

Water Supply.

Drinking water is obtained from the independent supplies of the towns, from wells, streams, ponds, and rain water tanks.

Town Water supplies.

Town water derived from the Chalk Marl is laid on from the Carisbrooke water works, which supply Newport, to several old houses where the wells are polluted in Carisbrooke, and to many of the new ones. Other houses in your District are supplied from the same source. Carisbrooke water is laid on to the Workhouse and to Parkhurst Prison. It would be well if it could be supplied to the Barracks and to the houses on Horsebridge Hill, the present supply being inadequate and impure. There are houses, too, in Warren's Lane, on the East Cowes Road, one of which is occupied as a dairy, possessing a most inadequate rainwater supply, to which it should be delivered. It is about to be taken to two houses near Westminster Mill in which enteric fever has several times occurred, the drinking water being obtained from the millpond into which the polluted Lukeley stream falls. Water from the Ryde Waterworks at Ashey, also derived from the Chalk, supplies Haylands. Bonchurch, Lowtherville, and some of the houses at St. Lawrence, are supplied with Ventnor water from the Upper Greensand. Some of the new houses at Lake obtain water from the Sandown town supply, derived from the River Yar; and a few of those near Shanklin from the supply of that town, derived from the Upper Greensand. Although hard, both those of the chalk and greensand are pure and wholesome waters.

Cisterns.

The quality of the water is frequently deteriorated before being used by storage in filthy cisterns, which is especially the case at Lowtherville. It is important, therefore, that the supply be constant. In many cases there is but one cistern for the supply of the closet and the house, and the overflow pipe passes directly into the house drain which connects with the sewer or cess-pit. There are, therefore, two sources of danger of contamination with sewer gas.

Well Water.

Wells are deep or shallow, and are sunk either into the natural formations or into the superficial accumulations of gravel and sand covering them. In the Rural District proper, the majority are uncovered or improperly covered dip-wells. Dip-wells are undesirable because the water is liable to contamination from dirty buckets being lowered into them, or from impurities getting into them from the surface. Deep wells are not numerous. They are not very liable to contamination unless sewage in quantity passes down through fissures, as, for example, from a farm-yard or a deep cess-pit. They may be affected by a surface soak into the well from a cess-pit or leaky drain or sewer, and, to provide against this, the upper ten or twelve feet, or more, should be surrounded by nine inches of good clay puddle, and the stones or bricks should be bedded in cement. Shallow wells pass down to a spring which may be perennial or may be dependent upon the rainfall of the season; or are simply soak-wells into which the water drains from the surrounding soil. The instances are rare in your District in which even the most elementary precautions are taken to protect the well—it is simply a matter of hap-hazard whether it becomes polluted or not. To begin with, even those wells which are supplied from springs are steined loosely with bricks or stones, thus admitting surface soak. Then, for the most part, they are surrounded by cultivated garden land upon which manure is placed. I have myself seen the contents of a closet spread about a well from which several houses are supplied with drinking water. Had this closet been used by a person suffering from enteric fever, a disease which comes on insidiously and which is seldom recognized in its early stages, the chances are its germs would have got into the water and would have infected many families. Then, the cess-pit constructed in the manner already described is often, I may say usually, placed in dangerous proximity

Dip-wells.

Deep Wells.

Shallow Wells.

Well Pollution.

to the well. The accident of the nature of the sub-soil, which is for the most part very porous in your District, determines whether the water will become contaminated or not. Drains, too, which may be leaky, are carried close to wells, and I have known them to discharge into them. As a matter of fact, a large number of the inhabitants of the Isle of Wight drink polluted well water, without apparently being much the worse, however; indeed, there are examples of wells which have probably always been contaminated from surface soak, connected with old cottages, from which the members of several generations of long-lived families have drunk. The sanitary significance of water contaminated by animal excrement is not generally understood. Polluted water does not of itself necessarily produce disease, although it may diminish in those who drink it the power of resistance to the influence of certain poisons which do produce disease. But if excrement can pass into water the germs or poisons of such diseases as enteric fever and cholera, which are associated with it, may get there. Moreover, these germs are living things which feed and multiply. If they pass into water absolutely free from organic impurity they quickly die because they have nothing to feed upon; but, if they pass into polluted water they rapidly increase. Thus are explained the ravages of epidemics in districts having normally a low death-rate, epidemics which teach us how fatal may be the error of neglecting sanitary precautions because the death-rate is low. It is a matter of congratulation that your District has a low death-rate, but in the Isle of Wight especially, sanitary authorities should not permit such a fact to lull them into a sleep of fancied security. I have already explained how liable we are to the introduction of the poison of scarlet fever, and as with scarlet fever so with other diseases. I have known a person sent here for change who was suffering, apparently, from malaise simply. Symptoms of enteric fever soon appeared, but before it was recognized the drinking water had become charged from the cess-pit with the germs of the disease, and three or four other cases occurred in the same house. I have also known a patient come here apparently convalescent from enteric fever who had a relapse. Other cases occurred, the infection, it was supposed, being due to sewer gas finding its way into the house from the cess-pit. Seeing that the poison of enteric fever is also generated spontaneously in connection with putrefying animal matter, we are exposed to a double danger in the Isle of Wight as regards this disease. Milk contaminated by impure water is often the vehicle of the poison in epidemics of this disease; scarlet-fever poison, too, is not unfrequently conveyed in milk. It is important, therefore, that the regulation and inspection of dairies, particularly as regards the water supply, should receive your earnest attention.

The well waters of the Isle of Wight vary in quality with their source, but they are for the most part hard, especially many of the Lower Greensand waters which contain salts of iron and other substances which render some of them unpalatable.

Streams and Brooks.

Streams and Brooks are the only sources of drinking water in too many instances. I have been told more than once that sewage, especially farm yard sewage, has only to pass over two or three stones at the bottom of a brook and it will be destroyed or become quite harmless. The River Pollution Commissioners in their 6th report, (1874) say "There is no river in the United Kingdom long enough to "secure the oxidation and destruction of any sewage which "may be discharged into it even at its source." Scarcely any streams in your District are free from sewage pollution, and there are few of them which do not supply water for drinking. People use the stream water in some cases because it is softer and more palatable than their well water, in other cases, more especially north of the Chalk, because they have no wells, or because the soak wells quickly give out in dry weather. I have reason to believe the pollution of streams by human excrement has sensibly diminished in your District recently. During the past six months attention has been directed to those streams which are especially used for drinking purposes, but much remains to be done to meet the evil. I would direct your attention particularly to the Eastern Yar and its branches, to the two branches of the Shorwell stream, which flows through Shorwell, Yafford, and Brighstone, and to the brooks north of the Chalk, more especially to those of the West Medene. In a highly cultivated district I do not think a stream, excepting near its origin, can be regarded in any case as a satisfactory source from which to obtain a supply of drinking water. It is the natural drain of a country and much organic impurity must find its way into it from the manured arable land on its banks. Filtration only removes the coarser impurities suspended in it, and cannot be depended on for the arrest of typhoid or cholera poison. Doubtless exposure to the air of water in a stream or river, and the oxidation and deposit of some of its inorganic constituents, greatly improves its quality; but this can scarcely be obtained in conjunction with freedom from organic impurity unless you adopt the excellent old Roman plan of leading water long distances on aqueducts. While, therefore, the administration of the Rivers Pollution Act is incumbent on you it would seem necessary to endeavour to provide drinking water from some other source for those who now take it from the streams. This may be done by inducing owners to dig wells, or, in some cases by sinking a deep well and placing a proper pump for public use, or, as you frequently see in continental villages, by leading water from a neighbouring spring to a fountain in the centre of the village. The public wells of Bembridge, Brading, and Wootton are of the first importance to those places. No doubt in times past the neglect to provide wells where good water could be found was due to the proximity of the stream. In Whitwell, for example, there are but two cottage wells, and the water of one of these is now of doubtful quality. Many of the people of Brighstone and its neighbourhood take their water from the stream, some because they have no wells, others because their well water is hard or unpalatable. As elsewhere in your District the thatched roofs of the cottages there interfere with the collection and storage of rain water. A common village supply for drinking purposes from the adjacent Upper Greensand seems to be what is required at Brighstone. The people of Tinker's Lane, near Cowes, who to some extent store their rain water, though imperfectly, depend very much upon the soak wells of a gentleman of the place who generously allows access to them, or upon the muddy Gurnard Brook which flows near. Both these sources of supply fail in dry weather. Two or three houses at the foot of the hill upon which the hamlet stands have excellent water. Probably a deep well not too far up the hill would afford an abundant public supply of water, or it may be led from a spring in Ruffin's Copse. At Porchfield there are two wells, one at a farm which is 100 feet deep, and a soak well at a cottage. The people drink from a stream which is low and muddy or dry in summer often, and is more or less fouled by the droppings of cattle which use it. The proper storage of rain water is too little attended to in places like Porchfield, and I regret you did not see fit to enforce it in the case of a new house there which was occupied without a certificate. Owners should be induced to supply rain water tanks with filters, or should combine to bore a deep well and fix a pump for the common use of the village. At Shalfleet there are no wells, the whole population going to the stream. The position of the churchyard would render it undesirable to dig wells to the west of the stream, but probably a good village supply could be found to the east of it by sinking below the Bembridge Limestone. At Newbridge, higher up the stream, the bulk of the population resort to it although water is readily obtained by digging wells. At Ningwood the people depend for their water upon a polluted brook. There is a well of very good water, 98ft. deep, at Ningwood, but it is not available for the use of the hamlet. In this district and as far east as Porchfield the inhabitants resort to the stream at Shalfleet in dry summers. At Gunville there is a shallow well carried beneath the Bembridge Limestone, the water in which never fails, and which is sold to the villagers. The few other wells are surface soak wells into which in some instances the rain water from the roof is turned. Some of the people go long distances for water, which they obtain from one of two unprotected brick tanks by the road side, which receive the drainage from cultivated land above. This tank also supplies some of the houses in the upper part of Carisbrooke. During dry seasons the Gunville people have to resort to the Lukeley stream, a mile off, for their water. Doubtless if the wells were sunk deeper or bored to the north of the perennial supply above-named, the reservoir beneath the Bembridge Limestone would be reached at no great depth, or a spring which now renders the high road "rotten" near the brickfield may be protected for public use. In the East Medene the use of stream water for drinking is much less general than in the West Medene, although many houses have no other supply.

Ponds

Ponds, which are also used by cattle, supply several isolated cottages or groups of cottages with drinking water. A particularly muddy stagnant puddle supplies houses at Poleclose. At Lock's Green the only water is obtained from a pool which is constantly being fouled by cattle.

Rain-water.

Rain water is collected principally for domestic purposes, usually in tubs, and in some cases, as at Gurnard and elsewhere, it is led into the soak wells to increase the water supply, but it is not utilised so much as it ought to be for drinking. This is due in part to so many roofs being thatched, and in part to the imperfect manner in which rain water is stored. If it were collected in properly constructed tanks and were passed through a simple and inexpensive filter placed beneath the stack pipe to arrest impurities before entering the tank, a valuable supply of pure drinking water may be furnished to every unthatched house.

The question of the water supply of your District is one which should receive your earnest and immediate attention; and I cannot too strongly urge upon you the importance of more strictly enforcing the provisions of the 6th clause of the Public Health (Water) Act, 1878, with reference to the water certificate.

Bye-Laws

The careful study of the more important considerations, now briefly passed in review, which affect the public health in your District will, I trust, convince you that if you would carry out successfully the provisions of the Public Health

Act, which it is your duty to administer, it is absolutely necessary that bye-laws be provided for your District. In conformity with the Order of the Local Government Board which requires the medical officer of health to "advise the "Sanitary Authority on any question relating to health in-"volved in the framing and subsequent working of such "bye-laws and regulations as they may have power to "make," I have already called your attention to this question, and advised you upon it. If I did not revert to the subject I should lay myself open to the grave charge of acquiescing in an arrangement which, it seems to me, subordinates the public well-being to the private interests of the individual, whereas it is my duty to advise you your policy should rather be to compel the individual to do his duty and thus avoid or postpone the necessity for expensive sanitary works. The Public Health Act contemplates and provides for the adoption of bye-laws by Rural Sanitary Authorities, with the sanction of the Central Authority, and in an important District like yours made up as it is of urban, suburban and semi-urban as well as of rural places, the future, already prejudiced, cannot be adequately secured apart from such regulations. The contention that bye-laws while increasing administrative outlay would hamper the legitimate operations of certain trades is probably groundless; as is the objection that bye-laws applicable to urban places would not be suitable to the country, for the Authority would scarcely put particular bye-laws in operation in places to which they did not apply. At the same time it is as important a lonely country house should be dry and that the contents of its cess-pit should not leak into the drinking-well as that a town house should be dry and its water pure. The proposal to place populous sub-districts under the administration of Local Boards would not, if adopted, render the application of bye-laws to other portions of your District less necessary. Even could you detach all places in which building is taking place, on the morrow of your action the difficulties would reappear. The subject is a most important one not only to the Isle of Wight but to the whole country. The tendency is to build just outside the boundaries of boroughs and local board districts, because while town advantages are secured the rates are less, and houses can be run up free from the restrictions of building bye-laws. Thus present evils are perpetuated and permanent sanitary advance is rendered impossible.

Sanitary Committee.

There is another question bearing directly on the sanitary welfare of your District upon which I would venture to offer advice. I would suggest that the sanitary business be conducted by a Committee of your Board. It is by far the most important of the matters which engage your attention, and taken after other business, the fear is, time being limited, lest it should not receive the deliberate attention its importance demands. It is desirable, also, that the delay occasioned by reference to Parochial Committees of questions which, in the interest of the public, press for settlement, should be obviated.

I need scarcely remind you the sanitary condition of the Isle of Wight is a subject of more than local concern. Its physical beauty alone attracts large numbers to its shores, but its salubrity, the equability of its temperature, and the variety of climate which, within certain limits, it possesses, render it one of the most important, if not the most important, of the health resorts of Britain. If, therefore, the paramount obligations of duty did not oblige all concerned to bend their energies to bring the Island into the most perfect sanitary state attainable, motives of self-interest would do so, seeing that in the absence of mineral wealth and of manufactures, the material prosperity of its inhabitants depends very greatly upon its visitors.

I have the honour to be,
Gentlemen,
Your obedient Servant,
J. GROVES.

W. H. UPWARD, PRINTER, HIGH STREET, NEWPORT.